ATTORNEY DOCKET NO. 21108.0040U1

SEQUENCE LISTING

<110> Kyrkanides, Stephanos

<120> VECTORS HAVING BOTH ISOFORMS OF
    BETA-HEXOSAMINIDASE AND USES OF THE SAME

<130> 21108.0040U1

<140> Unassigned
<141> 2004-02-18

<150> PCT/US03/13672
<151> 2003-05-03

<150> 60/377,503
<151> 2002-05-02

<160> 71

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 409
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
    Synthetic Construct

<400> 1
Met Met Thr Ser Val Tyr Ser Ser Leu Arg Leu Ser Gly Glu Leu Ser
 1   5   10   15
Glu Val Trp Arg Leu Leu Ala Ser Leu Phe Gly Asn Leu Leu Arg Ala
            20   25   30
Gln Phe Phe Ile Asn Lys Thr Glu Ile Glu Asp Phe Pro Arg Phe Pro
        35   40   45
His Arg Gly Leu Leu Leu Asp Thr Ser Arg His Tyr Leu Pro Leu Ser
    50   55   60
Ser Ile Leu Asp Thr Leu Asp Val Met Ala Tyr Asn Lys Leu Asn Val
65   70   75   80
Phe His Trp His Leu Val Asp Asp Pro Ser Phe Pro Tyr Glu Ser Phe
                85   90   95
Thr Phe Pro Glu Leu Met Arg Lys Gly Ser Tyr Asn Pro Val Thr His
            100   105   110
Ile Tyr Thr Ala Gln Asp Val Lys Glu Val Ile Glu Tyr Ala Arg Leu
            115   120   125
Arg Gly Ile Arg Val Leu Ala Glu Phe Asp Thr Pro Gly His Thr Leu
    130   135   140
Ser Trp Gly Pro Gly Ile Pro Gly Leu Leu Thr Pro Cys Tyr Ser Gly
145   150   155   160
Ser Glu Pro Ser Gly Thr Phe Gly Pro Val Asn Pro Ser Leu Asn Asn
                165   170   175
Thr Tyr Glu Phe Met Ser Thr Phe Phe Leu Glu Val Ser Ser Val Phe
            180   185   190
Pro Asp Phe Tyr Leu His Leu Gly Gly Asp Glu Val Asp Phe Thr Cys
            195   200   205

```
Trp Lys Ser Asn Pro Glu Ile Gln Asp Phe Met Arg Lys Lys Gly Phe
    210                 215                 220
Gly Glu Asp Phe Lys Gln Leu Glu Ser Phe Tyr Ile Gln Thr Leu Leu
225                 230                 235                 240
Asp Ile Val Ser Ser Tyr Gly Lys Gly Tyr Val Val Trp Gln Glu Val
                245                 250                 255
Phe Asp Asn Lys Val Lys Ile Gln Pro Asp Thr Ile Ile Gln Val Trp
            260                 265                 270
Arg Glu Asp Ile Pro Val Asn Tyr Met Lys Glu Leu Glu Leu Val Thr
        275                 280                 285
Lys Ala Gly Phe Arg Ala Leu Leu Ser Ala Pro Trp Tyr Leu Asn Arg
    290                 295                 300
Ile Ser Tyr Gly Pro Asp Trp Lys Asp Phe Tyr Ile Val Glu Pro Leu
305                 310                 315                 320
Ala Phe Glu Gly Thr Pro Glu Gln Lys Ala Leu Val Ile Gly Gly Glu
                325                 330                 335
Ala Cys Met Trp Gly Glu Tyr Val Asp Asn Thr Asn Leu Val Pro Arg
            340                 345                 350
Leu Trp Pro Arg Ala Gly Ala Val Ala Glu Arg Leu Trp Ser Asn Lys
        355                 360                 365
Leu Thr Ser Asp Leu Thr Phe Ala Tyr Glu Arg Leu Ser His Phe Arg
    370                 375                 380
Cys Glu Leu Leu Arg Arg Gly Val Gln Ala Gln Pro Leu Asn Val Gly
385                 390                 395                 400
Phe Cys Glu Gln Glu Phe Glu Gln Thr
                405
```

<210> 2
<211> 2256
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 2
```
cctccgagag gggagaccag cgggccatga caagctccag gctttggttt tcgctgctgc      60
tggcggcagc gttcgcagga cgggcgacgg ccctctggcc ctggcctcag aacttccaaa     120
cctccgacca gcgctacgtc ctttacccga acaactttca attccagtac gatgtcagct     180
cggccgcgca gcccggctgc tcagtcctcg acgaggcctt ccagcgctat cgtgacctgc     240
ttttcggttc cgggtcttgg ccccgtcctt acctcacagg gaaacggcat acactggaga     300
agaatgtgtt ggttgtctct gtagtcacac ctggatgtaa ccagcttcct actttggagt     360
cagtggagaa ttataccctg accataaatg atgaccagtg tttactcctc tctgagactg     420
tctggggagc tctccgaggt ctggagactt ttagccagct tgtttggaaa tctgctgagg     480
gcacagttct ttatcaacaa gactgagatt gaggactttc cccgctttcc tcaccggggc     540
ttgctgttgg atacatctcg ccattacctg ccactctcta gcatcctgga cactctggat     600
gtcatggcgt acaataaatt gaacgtgttc cactggcatc tggtagatga tccttccttc     660
ccatatgaga gcttcacttt tccagagctc atgagaaagg ggtcctacaa ccctgtcacc     720
cacatctaca cagcacagga tgtgaaggag gtcattgaat acgcacggct ccggggtatc     780
cgtgtgcttg cagagtttga cactcctggc cacactttgt cctggggacc aggtatccct     840
ggattactga ctccttgcta ctctgggtct gagccctctg gcacctttgg accagtgaat     900
cccagtctca ataatccta tgagttcatg agcacattct tcttagaagt cagctctgtc    960
ttcccagatt tttatcttca tcttggagga gatgaggttg atttcacctg ctggaagtcc    1020
aacccagaga tccaggactt tatgaggaag aaaggcttcg gtgaggactt caagcagctg    1080
gagtccttct acatccagac gctgctggac atcgtctctt cttatggcaa gggctatgtg    1140
gtgtggcagg aggtgtttga ataaaagta aagattcagc cagacacaat catacaggtg    1200
tggcgagagg atattccagt gaactatatg aaggagctgg aactggtcac caaggccggc    1260
ttccgggccc ttctctctgc cccctggtac ctgaaccgta tatcctatgg ccctgactgg    1320
aaggatttct acatagtgga acccctggca tttgaaggta cccctgagca gaaggctctg    1380
gtgattggtg agaggcttg tatgtgggga gaatatgtgg acaacacaaa cctggtcccc    1440
```

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```
aggctctggc ccagagcagg ggctgttgcc gaaaggctgt ggagcaacaa gttgacatct    1500
gacctgacat ttgcctatga acgtttgtca cacttccgct gtgaattgct gaggcgaggt    1560
gtccaggccc aacccctcaa tgtaggcttc tgtgagcagg agtttgaaca gacctgagcc    1620
ccaggcaccg aggagggtgc tggctgtagg tgaatggtag tggagccagg cttccactgc    1680
atcctggcca ggggacggag ccccttgcct tcgtgcccct tgcctgcgtg cccctgtgct    1740
tggagagaaa ggggccggtg ctggcgctcg cattcaataa agagtaatgt ggcatttttc    1800
tataataaac atggattacc tgtgtttaaa aaaaaaagtg tgaatggcgt tagggtaagg    1860
gcacagccag gctggagtca gtgtctgccc ctgaggtctt ttaagttgag ggctgggaat    1920
gaaacctata gcctttgtgc tgttctgcct tgcctgtgag ctatgtcact cccctcccac    1980
tcctgaccat attccagaca cctgccctaa tcctcagcct gctcacttca cttctgcatt    2040
atatctccaa ggcgttggta tatggaaaaa gatgtagggg cttggaggtg ttctggacag    2100
tggggagggc tccagaccca acctggtcac agaagagcct ctcccccatg catactcatc    2160
cacctccctc ccctagagct attctccttt gggtttcttg ctgcttcaat tttatacaac    2220
cattatttaa atattattaa acacatattg ttctct                              2256
```

<210> 3
<211> 544
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 3
```
Met Leu Leu Ala Leu Leu Leu Ala Thr Leu Leu Ala Ala Met Leu Ala
 1               5                  10                  15
Leu Leu Thr Gln Val Ala Leu Val Val Gln Val Ala Glu Ala Ala Arg
            20                  25                  30
Ala Pro Ser Val Ser Ala Lys Pro Gly Pro Ala Leu Trp Pro Leu Pro
        35                  40                  45
Leu Leu Val Lys Met Thr Pro Asn Leu Leu His Leu Ala Pro Glu Asn
    50                  55                  60
Phe Tyr Ile Ser His Ser Pro Asn Ser Thr Ala Gly Pro Ser Cys Thr
65                  70                  75                  80
Leu Leu Glu Glu Ala Phe Arg Arg Tyr His Gly Tyr Ile Phe Gly Phe
            85                  90                  95
Tyr Lys Trp His His Glu Pro Ala Glu Phe Gln Ala Lys Thr Gln Val
            100                 105                 110
Gln Gln Leu Leu Val Ser Ile Thr Leu Gln Ser Glu Cys Asp Ala Phe
        115                 120                 125
Pro Asn Ile Ser Ser Asp Glu Ser Tyr Thr Leu Leu Val Lys Glu Pro
    130                 135                 140
Val Ala Val Leu Lys Ala Asn Arg Val Trp Gly Ala Leu Arg Gly Leu
145                 150                 155                 160
Glu Thr Phe Ser Gln Leu Val Tyr Gln Asp Ser Tyr Gly Thr Phe Thr
            165                 170                 175
Ile Asn Glu Ser Thr Ile Ile Asp Ser Pro Arg Phe Ser His Arg Gly
            180                 185                 190
Ile Leu Ile Asp Thr Ser Arg His Tyr Leu Pro Val Lys Ile Ile Leu
        195                 200                 205
Lys Thr Leu Asp Ala Met Ala Phe Asn Lys Phe Asn Val Leu His Trp
    210                 215                 220
His Ile Val Asp Asp Gln Ser Phe Pro Tyr Gln Ser Ile Thr Phe Pro
225                 230                 235                 240
Glu Leu Ser Asn Lys Gly Ser Tyr Ser Leu Ser His Val Tyr Thr Pro
            245                 250                 255
Asn Asp Val Arg Met Val Ile Glu Tyr Ala Arg Leu Arg Gly Ile Arg
            260                 265                 270
Val Leu Pro Glu Phe Asp Thr Pro Gly His Thr Leu Ser Trp Gly Lys
        275                 280                 285
```

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```
Gly Gln Lys Asp Leu Leu Thr Pro Cys Tyr Ser Arg Gln Asn Lys Leu
    290                 295                 300
Asp Ser Phe Gly Pro Ile Asn Pro Thr Leu Asn Thr Thr Tyr Ser Phe
305                 310                 315                 320
Leu Thr Thr Phe Phe Lys Glu Ile Ser Glu Val Phe Pro Asp Gln Phe
                325                 330                 335
Ile His Leu Gly Gly Asp Glu Val Glu Phe Lys Cys Trp Glu Ser Asn
            340                 345                 350
Pro Lys Ile Gln Asp Phe Met Arg Gln Lys Gly Phe Gly Thr Asp Phe
        355                 360                 365
Lys Lys Leu Glu Ser Phe Tyr Ile Gln Lys Val Leu Asp Ile Ile Ala
    370                 375                 380
Thr Ile Asn Lys Gly Ser Ile Val Trp Gln Glu Val Phe Asp Asp Lys
385                 390                 395                 400
Ala Lys Leu Ala Pro Gly Thr Ile Val Glu Val Trp Lys Asp Ser Ala
            405                 410                 415
Tyr Pro Glu Glu Leu Ser Arg Val Thr Ala Ser Gly Phe Pro Val Ile
        420                 425                 430
Leu Ser Ala Pro Trp Tyr Leu Asp Leu Ile Ser Tyr Gly Gln Asp Trp
        435                 440                 445
Arg Lys Tyr Tyr Lys Val Glu Pro Leu Asp Phe Gly Gly Thr Gln Lys
    450                 455                 460
Gln Lys Gln Leu Phe Ile Gly Gly Glu Ala Cys Leu Trp Gly Glu Tyr
465                 470                 475                 480
Val Asp Ala Thr Asn Leu Thr Pro Arg Leu Trp Pro Arg Ala Ser Ala
            485                 490                 495
Val Gly Glu Arg Leu Trp Ser Ser Lys Asp Val Arg Asp Met Asp Asp
        500                 505                 510
Ala Tyr Asp Arg Leu Thr Arg His Arg Cys Arg Met Val Glu Arg Gly
        515                 520                 525
Ile Ala Ala Gln Pro Leu Tyr Ala Gly Tyr Cys Asn His Glu Asn Met
    530                 535                 540
```

<210> 4
<211> 1635
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 4
```
atgctgctgg cgctgctgtt ggcgacactg ctggcggcga tgttggcgct gctgactcag      60
gtggcgctgg tggtgcaggt ggcggaggcg ctcgggcccc gagcgtctc ggccaagccg      120
gggccggcgc tgtggccct gccgctcttg gtgaagatga ccccgaacct gctgcatctc      180
gccccggaga acttctacat cagccacagc cccaattcca cggcgggccc ctcctgcacc      240
ctgctggagg aagcgtttcg acgatatcat ggctatattt ttggtttcta caagtggcat      300
catgaacctg ctgaattcca ggctaaaacc caggttcagc aacttcttgt ctcaatcacc      360
cttcagtcag agtgtgatgc tttccccaac atatcttcag atgagtctta tactttactt      420
gtgaaagaac cagtggctgt ccttaaggcc aacagagttt ggggagcatt acgaggttta      480
gagacctta gccagttagt ttatcaagat cttatggaa ctttcaccat caatgaatcc      540
accattattg attctccaag gtttttctcac agaggaattt tgattgatac atccagacat      600
tatctgccag ttaagattat tcttaaaact ctggatgcca tggcttttaa taagtttaat      660
gttcttcact ggcacatagt tgatgaccag tctttcccat atcagagcat cactttttcct      720
gagttaagca ataaggaag ctattctttg tctcatgttt atacaccaaa tgatgtccgt      780
atggtgattg aatatgccag attacgagga attcgagtcc tgccagaatt tgatacccct      840
gggcatacac tatcttgggg aaaaggtcag aaagacctcc tgactccatg ttacagtaga      900
caaaacaagt ggactcttt tggacctata aaccctactc tgaatacaac atacagcttc      960
cttactacat ttttcaaaga aattagtgag gtgtttccag atcaattcat tcatttggga      1020
ggagatgaag tggaattaa atgttgggaa tcaaatccaa aaattcaaga tttcatgagg      1080
```

```
caaaaaggct ttggcacaga ttttaagaaa ctagaatctt tctacattca aaaggttttg      1140
gatattattg caaccataaa caagggatcc attgtctggc aggaggtttt tgatgataaa      1200
gcaaagcttg cgccgggcac aatagttgaa gtatggaaag acagcgcata tcctgaggaa      1260
ctcagtagag tcacagcatc tggcttccct gtaatccttt ctgctccttg gtacttagat      1320
ttgattagct atggacaaga ttggaggaaa tactataaag tggaacctct tgattttggc      1380
ggtactcaga aacagaaaca acttttcatt ggtggagaag cttgtctatg gggagaatat      1440
gtggatgcaa ctaacctcac tccaagatta tggcctcggg caagtgctgt tggtgagaga      1500
ctctggagtt ccaaagatgt cagagatatg gatgacgcct atgacagact gacaaggcac      1560
cgctgcagga tggtcgaacg tggaatagct gcacaacctc tttatgctgg atattgtaac      1620
catgagaaca tgtaa                                                       1635
```

<210> 5
<211> 581
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
     Synthetic Construct

<400> 5
```
aattccgccc ctctccctcc cccccccta acgttactgg ccgaagccgc ttggaataag       60
gccggtgtgc gtttgtctat atgtgatttt ccaccatatt gccgtctttt ggcaatgtga      120
gggcccggaa acctggccct gtcttcttga cgagcattcc taggggtctt tcccctctcg      180
ccaaaggaat gcaaggtctg ttgaatgtcg tgaaggaagc agttcctctg gaagcttctt      240
gaagacaaac aacgtctgta gcgacccttt gcaggcagcg gaacccccca cctggcgaca      300
ggtgcctctg cggccaaaag ccacgtgtat aagatacacc tgcaaaggcg gcacaacccc      360
agtgccacgt tgtgagttgg atagttgtgg aaagagtcaa atggctctcc tcaagcgtat      420
tcaacaaggg gctgaaggat gcccagaagg taccccattg tatgggatct gatctggggc      480
ctcggtgcac atgctttaca tgtgtttagt cgaggttaaa aaaacgtcta ggccccccga      540
accacgggga cgtggttttc ctttgaaaaa cacgatgata a                         581
```

<210> 6
<211> 528
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
     Synthetic Construct

<400> 6
```
Met Ala Gly Cys Arg Leu Trp Val Ser Leu Leu Leu Ala Ala Ala Leu
1               5                   10                  15
Ala Cys Leu Ala Thr Ala Leu Trp Pro Trp Pro Gln Tyr Ile Gln Thr
            20                  25                  30
Tyr His Arg Arg Tyr Thr Leu Tyr Pro Asn Asn Phe Gln Phe Arg Tyr
        35                  40                  45
His Val Ser Ser Ala Ala Gln Gly Gly Cys Val Val Leu Asp Glu Ala
    50                  55                  60
Phe Arg Arg Tyr Arg Asn Leu Leu Phe Gly Ser Gly Ser Trp Pro Arg
65                  70                  75                  80
Pro Ser Phe Ser Asn Lys Gln Gln Thr Leu Gly Lys Asn Ile Leu Val
                85                  90                  95
Val Ser Val Val Thr Ala Glu Cys Asn Glu Phe Pro Asn Leu Glu Ser
                100                 105                 110
Val Glu Asn Tyr Thr Leu Thr Ile Asn Asp Asp Gln Cys Leu Leu Ala
                115                 120                 125
Ser Glu Thr Val Trp Gly Ala Leu Arg Gly Leu Glu Thr Phe Ser Gln
        130                 135                 140
```

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```
Leu Val Trp Lys Ser Ala Glu Gly Thr Phe Phe Ile Asn Lys Thr Lys
145             150             155             160
Ile Lys Asp Phe Pro Arg Phe Pro His Arg Gly Val Leu Leu Asp Thr
            165             170             175
Ser Arg His Tyr Leu Pro Leu Ser Ser Ile Leu Asp Thr Leu Asp Val
            180             185             190
Met Ala Tyr Asn Lys Phe Asn Val Phe His Trp His Leu Val Asp Asp
            195             200             205
Ser Ser Phe Pro Tyr Glu Ser Phe Thr Phe Pro Glu Leu Thr Arg Lys
    210             215             220
Gly Ser Phe Asn Pro Val Thr His Ile Tyr Thr Ala Gln Asp Val Lys
225             230             235             240
Glu Val Ile Glu Tyr Ala Arg Leu Arg Gly Ile Arg Val Leu Ala Glu
            245             250             255
Phe Asp Thr Pro Gly His Thr Leu Ser Trp Gly Pro Gly Ala Pro Gly
            260             265             270
Leu Leu Thr Pro Cys Tyr Ser Gly Ser His Leu Ser Gly Thr Phe Gly
            275             280             285
Pro Val Asn Pro Ser Leu Asn Ser Thr Tyr Asp Phe Met Ser Thr Leu
    290             295             300
Phe Leu Glu Ile Ser Ser Val Phe Pro Asp Phe Tyr Leu His Leu Gly
305             310             315             320
Gly Asp Glu Val Asp Phe Thr Cys Trp Lys Ser Asn Pro Asn Ile Gln
            325             330             335
Ala Phe Met Lys Lys Lys Gly Phe Thr Asp Phe Lys Gln Leu Glu Ser
            340             345             350
Phe Tyr Ile Gln Thr Leu Leu Asp Ile Val Ser Asp Tyr Asp Lys Gly
            355             360             365
Tyr Val Val Trp Gln Glu Val Phe Asp Asn Lys Val Lys Val Arg Pro
    370             375             380
Asp Thr Ile Ile Gln Val Trp Arg Glu Glu Met Pro Val Glu Tyr Met
385             390             395             400
Leu Glu Met Gln Asp Ile Thr Arg Ala Gly Phe Arg Ala Leu Leu Ser
            405             410             415
Ala Pro Trp Tyr Leu Asn Arg Val Lys Tyr Gly Pro Asp Trp Lys Asp
            420             425             430
Met Tyr Lys Val Glu Pro Leu Ala Phe His Gly Thr Pro Glu Gln Lys
            435             440             445
Ala Leu Val Ile Gly Gly Glu Ala Cys Met Trp Gly Glu Tyr Val Asp
    450             455             460
Ser Thr Asn Leu Val Pro Arg Leu Trp Pro Arg Ala Gly Ala Val Ala
465             470             475             480
Glu Arg Leu Trp Ser Ser Asn Leu Thr Thr Asn Ile Asp Phe Ala Phe
            485             490             495
Lys Arg Leu Ser His Phe Arg Cys Glu Leu Val Arg Arg Gly Ile Gln
            500             505             510
Ala Gln Pro Ile Ser Val Gly Tyr Cys Glu Gln Glu Phe Glu Gln Thr
            515             520             525
```

<210> 7
<211> 1960
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 7
ctgcagaatc ctttgcttac ggatctctga gatcgagccg ccttgcttcc ctcccgttca   60
cgtgaccctc cgattgtcac gcgggcgtcc gctcagctga ccggggctca cgtgggctca   120

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```
gcctgctggc cggggagctg gccggtgggc atggccggct gcaggctctg ggtttcgctg     180
ctgctggcgg cggcgttggc ttgcttggcc acggcactgt ggccgtggcc ccagtacatc     240
caaacctacc accggcgcta caccctgtac cccaacaact tccagttccg gtaccatgtc     300
agttcggccg cgcagggcgg ctgcgtcgtc ctcgacgagg cctttcgacg ctaccgtaac     360
ctgctcttcg gttccggctc ttggccccga cccagcttct caaataaaca gcaaacgttg     420
gggaagaaca ttctggtggt ctccgtcgtc acagctgaat gtaatgaatt tcctaatttg     480
gagtcggtag aaaattacac cctaaccatt aatgatgacc agtgtttact cgcctctgag     540
actgtctggg gcgctctccg aggtctggag actttcagtc agcttgtttg gaaatcagct     600
gagggcacgt tctttatcaa caagacaaag attaaagact ttcctcgatt ccctcaccgg     660

ggcgtactgc tggatacatc tcgccattac ctgccattgt ctagcatcct ggatacactg     720
gatgtcatgg catacaataa attcaacgtg ttccactggc acttggtgga cgactcttcc     780
ttcccatatg agagcttcac tttcccagag ctcaccagaa aggggtcctt caaccctgtc     840
actcacatct acacagcaca ggatgtgaag gaggtcattg aatacgcaag gcttcggggt     900
atccgtgtgc tggcagaatt tgacactcct ggccacactt tgtcctgggg gccaggtgcc     960
cctgggttat taacaccttg ctactctggg tctcatctct ctggcacatt tggaccggtg    1020
aaccccagtc tcaacagcac ctatgacttc atgagcacac tcttcctgga gatcagctca    1080
gtcttcccgg acttttatct ccacctggga ggggatgaag tcgacttcac ctgctggaag    1140
tccaacccca acatccaggc cttcatgaag aaaaagggct ttactgactt caagcagctg    1200
gagtccttct acatccagac gctgctggac atcgtctctg attatgacaa gggctatgtg    1260
gtgtggcagg aggtatttga taataaagtg aaggttcggc cagatacaat catacaggtg    1320
tggcgggaag aaatgccagt agagtacatg ttggagatgc aagatatcac cagggctggc    1380
ttccgggccc tgctgtctgc tccctggtac ctgaaccgtg taaagtatgg ccctgactgg    1440
aaggacatgt acaaagtgga gcccctggca tttcatggta cgcctgaaca gaaggctctg    1500
gtcattggag gggaggcctg tatgtgggga gagtatgtgg acagcaccaa cctggtcccc    1560
agactctggc ccagagcggg tgccgtcgct gagagactgt ggagcagtaa cctgacaact    1620
aatatagact ttgcctttaa acgtttgtcg catttccgtt gtgagctggt gaggagagga    1680
atccaggccc agcccatcag tgtaggctac tgtgagcagg agtttgagca gacttgagcc    1740
accagcgctg aacacccagg aggttgctgt cctttgagtc agctgcgctg agcacccagg    1800
agggtgctgg ccttaagaga gcaggtcccg gggcagggct aatctttcac tgcctcccgg    1860
ccaggggaga gcaccccttg cccgtgtgcc cctgtgacta cagagaagga ggctggtgct    1920
ggcactggtg ttcaataaag atctatgtgg cattttctct                          1960
```

<210> 8
<211> 12745
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 8
```
atgcggtttt ggcagtacat caatgggcgt ggatagcggt ttgactcacg gggatttcca      60
agtctccacc ccattgacgt caatgggagt ttgttttggc accaaaatca acgggacttt     120
ccaaaatgtc gtaacaactc cgccccattg acgcaaatgg gcggtaggcg tgtacggtgg     180
gaggtctata taagcagagc tctgtgaaac ttcgaggagt ctctttgttg aggacttttg     240
agttctccct tgaggctccc acagatacaa taaatatttg agattgaacc ctgtcgagta     300
tctgtgtaat ctttttttacc tgtgaggtct cggaatccgg gccgagaact tcgcagttgg     360
cgcccgaaca gggacttgat tgagagtgat tgaggaagtg aagctagagc aatagaaagc     420
tgttaagcag aactcctgct gacctaaata gggaagcagt agcagacgct gctaacagtg     480
agtatctcta gtgaagcgga ctcgagctca taatcaagtc attgtttaaa ggcccagata     540
aattacatct ggtgactctt cgcggacctt caagccagga gattcgccga gggacagtca     600
acaaggtagg agagattcta cagcaacatg gggaatggac aggggcgaga ttggaaaatg     660
gccattaaga gatgtagtaa tgttgctgta ggagtagggg ggaagagtaa aaaatttgga     720
gaagggaatt tcagatgggc cattagaatg gctaatgtat ctacaggacg agaacctggt     780
gatataccag agactttaga tcaactaagg ttggttattt gcgatttaca agaaagaaga     840
gaaaaatttg gatctagcaa agaaattgat atggcaattg tgacattaaa agtctttgcg     900
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ATTORNEY DOCKET NO. 21108.0040U1

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Ser Asp Gln Arg Tyr Val Leu Tyr Pro Asn Asn Phe Gln Phe Gln Tyr
             35                  40                  45
Asp Val Ser Ser Ala Ala Gln Pro Gly Cys Ser Val Leu Asp Glu Ala
         50                  55                  60
Phe Gln Arg Tyr Arg Asp Leu Leu Phe Gly Ser Gly Ser Trp Pro Arg
 65                  70                  75                  80
Pro Tyr Leu Thr Gly Lys Arg His Thr Leu Glu Lys Asn Val Leu Val
                 85                  90                  95
Val Ser Val Val Thr Pro Gly Cys Asn Gln Leu Pro Thr Leu Glu Ser
             100                 105                 110
Val Glu Asn Tyr Thr Leu Thr Ile Asn Asp Asp Gln Cys Leu Leu Leu
             115                 120                 125
Ser Glu Thr Val Trp Gly Ala Leu Arg Gly Leu Glu Thr Phe Ser Gln
         130                 135                 140
Leu Val Trp Lys Ser Ala Glu Gly Thr Phe Phe Ile Asn Lys Thr Glu
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Ile Glu Asp Phe Pro Arg Phe Pro His Arg Gly Leu Leu Leu Asp Thr
                 165                 170                 175
Ser Arg His Tyr Leu Pro Leu Ser Ser Ile Leu Asp Thr Leu Asp Val
             180                 185                 190
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             195                 200                 205
Pro Ser Phe Pro Tyr Glu Ser Phe Thr Phe Pro Glu Leu Met Arg Lys
         210                 215                 220
Gly Ser Tyr Asn Pro Val Thr His Ile Tyr Thr Ala Gln Asp Val Lys
225                 230                 235                 240
Glu Val Ile Glu Tyr Ala Arg Leu Arg Gly Ile Arg Val Leu Ala Glu
                 245                 250                 255
Phe Asp Thr Pro Gly His Thr Leu Ser Trp Gly Pro Gly Ile Pro Gly
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Gly Tyr Val Val Trp Gln Glu Val Phe Asp Asn Lys Val Lys Ile Gln
    370                 375                 380
Pro Asp Thr Ile Ile Gln Val Trp Arg Glu Asp Ile Pro Val Asn Tyr
385                 390                 395                 400
Met Lys Glu Leu Glu Leu Val Thr Lys Ala Gly Phe Arg Ala Leu Leu
            405                 410                 415
Ser Ala Pro Trp Tyr Leu Asn Arg Ile Ser Tyr Gly Pro Asp Trp Lys
            420                 425                 430
Asp Phe Tyr Val Val Glu Pro Leu Ala Phe Glu Gly Thr Pro Glu Gln
            435                 440                 445
Lys Ala Leu Val Ile Gly Gly Glu Ala Cys Met Trp Gly Glu Tyr Val
    450                 455                 460
Asp Asn Thr Asn Leu Val Pro Arg Leu Trp Pro Arg Ala Gly Ala Val
465                 470                 475                 480
Ala Glu Arg Leu Trp Ser Asn Lys Leu Thr Ser Asp Leu Thr Phe Ala
            485                 490                 495
Tyr Glu Arg Leu Ser His Phe Arg Cys Glu Leu Leu Arg Arg Gly Val
            500                 505                 510
Gln Ala Gln Pro Leu Asn Val Gly Phe Cys Glu Gln Glu Phe Glu Gln
            515                 520                 525
Thr
```

```
<210> 10
<211> 2255
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 10
cctccgagag gggagaccag cgggccatga caagctccag gctttggttt tcgctgctgc      60
tggcggcagc gttcgcagga cgggcgacgg ccctctggcc ctggcctcag aacttccaaa     120
cctccgacca gcgctacgtc ctttacccga caactttca attccagtac gatgtcagct      180
cggccgcgca gcccggctgc tcagtcctcg acgaggcctt ccagcgctat cgtgacctgc     240
ttttcggttc cgggtcttgg ccccgtcctt acctcacagg gaaacggcat acactggaga     300
agaatgtgtt ggttgtctct gtagtcacac ctggatgtaa ccagcttcct actttggagt     360
cagtggagaa ttatccctg accataaatg atgaccagtg tttactcctc tctgagactg      420
tctggggagc tctccgaggt ctggagactt ttagccagct tgtttggaaa tctgctgagg     480
gcacattctt tatcaacaag actgagattg aggactttcc ccgctttcct caccggggct     540
tgctgttgga tacatctcgc cattacctgc cactctctag catcctggac actctggatg     600
tcatggcgta caataaattg aacgtgttcc actggcatct ggtagatgat ccttccttcc     660
catatgagag cttcactttt ccagagctca tgagaaaggg gtcctacaac cctgtcaccc     720
acatctacac agcacaggat gtgaaggagg tcattgaata cgcacggctc cggggtatcc     780
gtgtgcttgc agagtttgac actcctggcc acactttgtc ctggggacca ggtatccctg     840
gattactgac tccttgctac tctgggtctg agccctctgg cacctttgga ccagtgaatc     900
ccagtctcaa taatacctat gagttcatga gcacattctt cttagaagtc agctctgtct     960
tcccagattt ttatcttcat cttggaggag atgaggttga tttcacctgc tggaagtcca    1020
acccagagat ccaggacttt atgaggaaga aaggcttcgg tgaggacttc aagcagctgg    1080
```

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```
agtccttcta catccagacg ctgctggaca tcgtctcttc ttatggcaag ggctatgtgg      1140
tgtggcagga ggtgtttgat aataaagtaa agattcagcc agacacaatc atacaggtgt      1200
ggcgagagga tattccagtg aactatatga aggagctgga actggtcacc aaggccggct      1260
tccgggccct tctctctgcc ccctggtacc tgaaccgtat atcctatggc cctgactgga      1320
aggatttcta cgtagtggaa cccctggcat ttgaaggtac ccctgagcag aaggctctgg      1380
tgattggtgg agaggcttgt atgtggggag aatatgtgga caacacaaac ctggtcccca      1440
ggctctggcc cagagcaggg gctgttgccg aaaggctgtg gagcaacaag ttgacatctg      1500
acctgacatt tgcctatgaa cgtttgtcac acttccgctg tgagttgctg aggcgaggtg      1560
tccaggccca acccctcaat gtaggcttct gtgagcagga gtttgaacag acctgagccc      1620
caggcaccga ggagggtgct ggctgtaggt gaatggtagt ggagccaggc ttccactgca      1680
tcctggccag gggacggagc cccttgcctt cgtgcccctt gcctgcgtgc ccctgtgctt      1740
ggagagaaag gggccggtgc tggcgctcgc attcaataaa gagtaatgtg gcatttttct      1800
ataataaaca tggattacct gtgtttaaaa aaaaaagtgt gaatggcgtt agggtaaggg      1860
cacagccagg ctggagtcag tgtctgcccc tgaggtcttt taagttgagg gctgggaatg      1920
aaacctatag cctttgtgct gttctgcctt gcctgtgagc tatgtcactc ccctcccact      1980
cctgaccata ttccagacac ctgccctaat cctcagcctg ctcacttcac ttctgcatta      2040
tatctccaag gcgttggtat atggaaaaag atgtaggggc ttggaggtgt tctggacagt      2100
ggggagggct ccagacccaa cctggtcaca aaagagcctc tcccccatgc atactcatcc      2160
acctccctcc cctagagcta ttctcctttg ggtttcttgc tgctgcaatt ttatacaacc      2220
attatttaaa tattattaaa cacatattgt tctct                                 2255
```

<210> 11
<211> 1635
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 11
```
atgctactgg cgctgctgtt ggcgacactg ctggcggcga tgttggcgct gctgactcag        60
gtggcgctgg tggtgcaggt ggcggaggcg gctcgggccc cgagcgtctc ggccaagccg       120
gggccggcgc tgtggcccct gccgctcttg gtgaagatga ccccgaacct gctgcatctc       180
gccccggaga acttctacat cagccacagc cccaattcca cggcgggccc ctcctgcacc       240
ctgctggagg aagcgtttcg acgatatcat ggctatattt ttggtttcta caagtggcat       300
catgaacctg ctgaattcca ggctaaaacc caggttcagc aacttcttgt ctcaatcacc       360
cttcagtcag agtgtgatgc tttccccaac atatcttcag atgagtctta tactttactt       420
gtgaaagaac cagtggctgt ccttaaggcc aacagagttt ggggagcatt acgaggttta       480
gagacctttta gccagttagt ttatcaagat tcttatggaa cttcaccat caatgaatcc       540
accattattg attctccaag gtttttctcac agaggaattt tgattgatac atccagacat       600
tatctgccag ttaagattat tcttaaaact ctggatgcca tggcttttaa taagtttaat       660
gttcttcact ggcacatagt tgatgaccag tctttcccat atcagagcat cactttttcct       720
gagttaagca ataaaggaag ctattctttg tctcatgttt atacaccaaa tgatgtccgt       780
atggtgattg aatatgccag attacgagga attcgagtcc tgccagaatt tgataccct        840
gggcatacac tatcttgggg aaaaggtcag aaagacctcc tgactccatg ttacagtaga       900
caaaacaagt tggactcttt tggacctata aaccctactc tgaatacaac atacagcttc       960
cttactacat tttttcaaaga aattagtgag gtgtttccag atcaattcat tcatttggga      1020
ggagatgaag tggaatttaa atgttgggaa tcaaatccaa aaattcaaga tttcatgagg      1080
caaaaaggct ttggcacaga ttttaagaaa ctagaatctt tctacattca aaaggttttg      1140
gatattattg caaccataaa caagggatcc attgtctggc aggaggtttt tgatgataaa      1200
gcaaagcttg cgccgggcac aatagttgaa gtatggaaag acagcgcata tcctgaggaa      1260
ctcagtagag tcacagcatc tggcttccct gtaatccttt ctgctccttg gtacttagat      1320
ttgattagct atggacaaga ttggaggaaa tactataaag tggaacctct tgattttggc      1380
ggtactcaga aacagaaaca acttttcatt ggtggagaag cttgtctatg gggagaatat      1440
gtggatgcaa ctaacctcac tccaagatta tggcctcggg caagtgctgt tggtgagaga      1500
ctctggagtt ccaaagatgt cagagatatg gatgacgcct atgacagact gacaaggcac      1560
cgctgcagga tggtcgaacg tggaatagct gcacaacctc tttatgctgg atattgtaac      1620
catgagaaca tgtaa                                                       1635
```

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<210> 12
<211> 544
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 12
```
Met Leu Leu Ala Leu Leu Leu Ala Thr Leu Leu Ala Ala Met Leu Ala
 1               5                  10                  15
Leu Leu Thr Gln Ile Ala Leu Val Val Gln Val Ala Glu Ala Ala Arg
            20                  25                  30
Ala Pro Ser Val Ser Ala Lys Pro Gly Pro Ala Leu Trp Pro Leu Pro
        35                  40                  45
Leu Leu Val Lys Met Thr Pro Asn Leu Leu His Leu Ala Pro Glu Asn
    50                  55                  60
Phe Tyr Ile Ser His Ser Pro Asn Ser Thr Ala Gly Pro Ser Cys Thr
65                  70                  75                  80
Leu Leu Glu Glu Ala Phe Arg Arg Tyr His Gly Tyr Ile Phe Gly Phe
                85                  90                  95
Tyr Lys Trp His His Glu Pro Ala Glu Phe Gln Ala Lys Thr Gln Val
            100                 105                 110
Gln Gln Leu Leu Val Ser Ile Thr Leu Gln Ser Glu Cys Asp Ala Phe
        115                 120                 125
Pro Asn Ile Ser Ser Asp Glu Ser Tyr Thr Leu Leu Val Lys Glu Pro
        130                 135                 140
Val Ala Val Leu Lys Ala Asn Arg Val Trp Gly Ala Leu Arg Gly Leu
145                 150                 155                 160
Glu Thr Phe Ser Gln Leu Val Tyr Gln Asp Ser Tyr Gly Thr Phe Thr
                165                 170                 175
Ile Asn Glu Ser Thr Ile Ile Asp Ser Pro Arg Phe Ser His Arg Gly
                180                 185                 190
Ile Leu Ile Asp Thr Ser Arg His Tyr Leu Pro Val Lys Ile Ile Leu
            195                 200                 205
Lys Thr Leu Asp Ala Met Ala Phe Asn Lys Phe Asn Val Leu His Trp
    210                 215                 220
His Ile Val Asp Asp Gln Ser Phe Pro Tyr Gln Ser Ile Thr Phe Pro
225                 230                 235                 240
Glu Leu Ser Asn Lys Gly Ser Tyr Ser Leu Ser His Val Tyr Thr Pro
                245                 250                 255
Asn Asp Val Arg Met Val Ile Glu Tyr Ala Arg Leu Arg Gly Ile Arg
            260                 265                 270
Val Leu Pro Glu Phe Asp Thr Pro Gly His Thr Leu Ser Trp Gly Lys
        275                 280                 285
Gly Gln Lys Asp Leu Leu Thr Pro Cys Tyr Ser Arg Gln Asn Lys Leu
    290                 295                 300
Asp Ser Phe Gly Pro Ile Asn Pro Thr Leu Asn Thr Thr Tyr Ser Phe
305                 310                 315                 320
Leu Thr Thr Phe Phe Lys Glu Ile Ser Glu Val Phe Pro Asp Gln Phe
                325                 330                 335
Ile His Leu Gly Gly Asp Glu Val Glu Phe Lys Cys Trp Glu Ser Asn
            340                 345                 350
Pro Lys Ile Gln Asp Phe Met Arg Gln Lys Gly Phe Gly Thr Asp Phe
        355                 360                 365
Lys Lys Leu Glu Ser Phe Tyr Ile Gln Lys Val Leu Asp Ile Ile Ala
    370                 375                 380
Thr Ile Asn Lys Gly Ser Ile Val Trp Gln Glu Val Phe Asp Asp Lys
385                 390                 395                 400
```

```
Ala Lys Leu Ala Pro Gly Thr Ile Val Glu Val Trp Lys Asp Ser Ala
            405                 410                 415
Tyr Pro Glu Glu Leu Ser Arg Val Thr Ala Ser Gly Phe Pro Val Ile
            420                 425                 430
Leu Ser Ala Pro Trp Tyr Leu Asp Leu Ile Ser Tyr Gly Gln Asp Trp
            435                 440                 445
Arg Lys Tyr Tyr Lys Val Glu Pro Leu Asp Phe Gly Gly Thr Gln Lys
    450                 455                 460
Gln Lys Gln Leu Phe Ile Gly Gly Glu Ala Cys Leu Trp Gly Glu Tyr
465                 470                 475                 480
Val Asp Ala Thr Asn Leu Thr Pro Arg Leu Trp Pro Arg Ala Ser Ala
            485                 490                 495
Val Gly Glu Arg Leu Trp Ser Ser Lys Asp Val Arg Asp Met Asp Asp
            500                 505                 510
Ala Tyr Asp Arg Leu Thr Arg His Arg Cys Arg Met Val Glu Arg Gly
    515                 520                 525
Ile Ala Ala Gln Pro Leu Tyr Ala Gly Tyr Cys Asn His Glu Asn Met
    530                 535                 540
```

<210> 13
<211> 529
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 13
```
Met Thr Ser Ser Arg Leu Trp Phe Ser Leu Leu Leu Ala Ala Ala Phe
  1             5                 10                  15
Ala Gly Arg Ala Thr Ala Leu Trp Pro Trp Pro Gln Asn Phe Gln Thr
            20                  25                  30
Ser Asp Gln Arg Tyr Val Leu Tyr Pro Asn Asn Phe Gln Phe Gln Tyr
            35                  40                  45
Asp Val Ser Ser Ala Ala Gln Pro Gly Cys Ser Val Leu Asp Glu Ala
    50                  55                  60
Phe Gln Arg Tyr Arg Asp Leu Leu Phe Gly Ser Gly Ser Trp Pro Arg
65                  70                  75                  80
Pro Tyr Leu Thr Gly Lys Arg His Thr Leu Glu Lys Asn Val Leu Val
            85                  90                  95
Val Ser Val Val Thr Pro Gly Cys Asn Gln Leu Pro Thr Leu Glu Ser
            100                 105                 110
Val Glu Asn Tyr Thr Leu Thr Ile Asn Asp Asp Gln Cys Leu Leu Leu
            115                 120                 125
Ser Glu Thr Val Trp Gly Ala Leu Arg Gly Leu Glu Thr Phe Ser Gln
    130                 135                 140
Leu Val Trp Lys Ser Ala Glu Gly Thr Phe Phe Ile Asn Lys Thr Glu
145                 150                 155                 160
Ile Glu Asp Phe Pro Arg Phe Pro His Arg Gly Leu Leu Leu Asp Thr
            165                 170                 175
Ser Arg His Tyr Leu Pro Leu Ser Ser Ile Leu Asp Thr Leu Asp Val
            180                 185                 190
Met Ala Tyr Asn Lys Leu Asn Val Phe His Trp His Leu Val Asp Asp
            195                 200                 205
Pro Ser Phe Pro Tyr Glu Ser Phe Thr Phe Pro Glu Leu Met Arg Lys
    210                 215                 220
Gly Ser Tyr Asn Pro Val Thr His Ile Tyr Thr Ala Gln Asp Val Lys
225                 230                 235                 240
Glu Val Ile Glu Tyr Ala Arg Leu Arg Gly Ile Arg Val Leu Ala Glu
            245                 250                 255
```

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```
Phe Asp Thr Pro Gly His Thr Leu Ser Trp Gly Pro Gly Ile Pro Gly
            260                 265                 270
Leu Leu Thr Pro Cys Tyr Ser Gly Ser Glu Pro Ser Gly Thr Phe Gly
            275                 280                 285
Pro Val Asn Pro Ser Leu Asn Asn Thr Tyr Glu Phe Met Ser Thr Phe
            290                 295                 300
Phe Leu Glu Val Ser Ser Val Phe Pro Asp Phe Tyr Leu His Leu Gly
305                 310                 315                 320
Gly Asp Glu Val Asp Phe Thr Cys Trp Lys Ser Asn Pro Glu Ile Gln
            325                 330                 335
Asp Phe Met Arg Lys Lys Gly Phe Gly Glu Asp Phe Lys Gln Leu Glu
            340                 345                 350
Ser Phe Tyr Ile Gln Thr Leu Leu Asp Ile Val Ser Ser Tyr Gly Lys
            355                 360                 365
Gly Tyr Val Val Trp Gln Glu Val Phe Asp Asn Lys Val Lys Ile Gln
370                 375                 380
Pro Asp Thr Ile Ile Gln Val Trp Arg Glu Asp Ile Pro Val Asn Tyr
385                 390                 395                 400
Met Lys Glu Leu Glu Leu Val Thr Lys Ala Gly Phe Arg Ala Leu Leu
            405                 410                 415
Ser Ala Pro Trp Tyr Leu Asn Arg Ile Ser Tyr Gly Pro Asp Trp Lys
            420                 425                 430
Asp Phe Tyr Val Val Glu Pro Leu Ala Phe Glu Gly Thr Pro Glu Gln
            435                 440                 445
Lys Ala Leu Val Ile Gly Gly Glu Ala Cys Met Trp Gly Glu Tyr Val
            450                 455                 460
Asp Asn Thr Asn Leu Val Pro Arg Leu Trp Pro Arg Ala Gly Ala Val
465                 470                 475                 480
Ala Glu Arg Leu Trp Ser Asn Lys Leu Thr Ser Asp Leu Thr Phe Ala
            485                 490                 495
Tyr Glu Arg Leu Ser His Phe Arg Cys Glu Leu Leu Arg Arg Gly Val
            500                 505                 510
Gln Ala Gln Pro Leu Asn Val Gly Phe Cys Glu Gln Glu Phe Glu Gln
            515                 520                 525
Thr
```

<210> 14
<211> 739
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 14
```
ttttaatcct ccgttttct gcttctgaag ttacttcagc ctggcaagtc ctttacctcc      60
ccgtaggcct ggcgagctgc atcacaacat tcaagattca ccctagagcc atctgggaaa     120
ctttcttctc caggtcgccc tgcgtcctcg cctccccacc ccgttcttct cgagtcgggt     180
gagctgtcta gttccatcac ggccggcacg gccgcagggg tggccggtta tttactgctc     240
tactgggccc gtgagcagtc tggcgagccg agcagttgcc gacgcccggc acaatccgct     300
gcacgtagca ggagcctcag gtccaggccg gaagtgaaag ggcagggtgt gggtcctcct     360
ggggtcgcag cgcagagcc gcctctggtc acgtgattcg ccgataagtc acggggcgc      420
cgctcacctg accagggtct cacgtggcca gcccctccg agaggggaga ccagcgggcc     480
atgacaagct ccaggctttg gttttcgctg ctgctggcgg cagcgttcgc aggacgggcg     540
acggccctct ggccctggcc tcagaacttc caaacctccg accagcgcta cgtcctttac     600
ccgaacaact ttcaattcca gtacgatgtc agctcggccg cgcagcccgg ctgctcagtc     660
ctcgacgagg ccttccagcg ctatcgtgac ctgcttttcg gttccgggtc ttggccccgt     720
ccttacctca caggtgagt                                                  739
```

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<210> 15
<211> 556
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 15
Met Glu Leu Cys Gly Leu Gly Leu Pro Arg Pro Pro Met Leu Leu Ala
1   5   10   15
Leu Leu Leu Ala Thr Leu Leu Ala Ala Met Leu Ala Leu Leu Thr Gln
            20   25   30
Val Ala Leu Val Val Gln Val Ala Glu Ala Ala Arg Ala Pro Ser Val
        35   40   45
Ser Ala Lys Pro Gly Pro Ala Leu Trp Pro Leu Pro Leu Ser Val Lys
    50   55   60
Met Thr Pro Asn Leu Leu His Leu Ala Pro Glu Asn Phe Tyr Ile Ser
65   70   75   80
His Ser Pro Asn Ser Thr Ala Gly Pro Ser Cys Thr Leu Leu Glu Glu
                85   90   95
Ala Phe Arg Arg Tyr His Gly Tyr Ile Phe Gly Phe Tyr Lys Trp His
                100   105   110
His Glu Pro Ala Glu Phe Gln Ala Lys Thr Gln Val Gln Gln Leu Leu
            115   120   125
Val Ser Ile Thr Leu Gln Ser Glu Cys Asp Ala Phe Pro Asn Ile Ser
    130   135   140
Ser Asp Glu Ser Tyr Thr Leu Leu Val Lys Glu Pro Val Ala Val Leu
145   150   155   160
Lys Ala Asn Arg Val Trp Gly Ala Leu Arg Gly Leu Glu Thr Phe Ser
                165   170   175
Gln Leu Val Tyr Gln Asp Ser Tyr Gly Thr Phe Thr Ile Asn Glu Ser
                180   185   190
Thr Ile Ile Asp Ser Pro Arg Phe Ser His Arg Gly Ile Leu Ile Asp
            195   200   205
Thr Ser Arg His Tyr Leu Pro Val Lys Ile Ile Leu Lys Thr Leu Asp
    210   215   220
Ala Met Ala Phe Asn Lys Phe Asn Val Leu His Trp His Ile Val Asp
225   230   235   240
Asp Gln Ser Phe Pro Tyr Gln Ser Ile Thr Phe Pro Glu Leu Ser Asn
                245   250   255
Lys Gly Ser Tyr Ser Leu Ser His Val Tyr Thr Pro Asn Asp Val Arg
            260   265   270
Met Val Ile Glu Tyr Ala Arg Leu Arg Gly Ile Arg Val Leu Pro Glu
            275   280   285
Phe Asp Thr Pro Gly His Thr Leu Ser Trp Gly Lys Gly Gln Lys Asp
    290   295   300
Leu Leu Thr Pro Cys Tyr Ser Arg Gln Asn Lys Leu Asp Ser Phe Gly
305   310   315   320
Pro Ile Asn Pro Thr Leu Asn Thr Thr Tyr Ser Phe Leu Thr Thr Phe
                325   330   335
Phe Lys Glu Ile Ser Glu Val Phe Pro Asp Gln Phe Ile His Leu Gly
            340   345   350
Gly Asp Glu Val Glu Phe Lys Cys Trp Glu Ser Asn Pro Lys Ile Gln
            355   360   365
Asp Phe Met Arg Gln Lys Gly Phe Gly Thr Asp Phe Lys Lys Leu Glu
    370   375   380
Ser Phe Tyr Ile Gln Lys Val Leu Asp Ile Ile Ala Thr Ile Asn Lys
385   390   395   400

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```
Gly Ser Ile Val Trp Gln Glu Val Phe Asp Asp Lys Ala Lys Leu Ala
            405                 410                 415
Pro Gly Thr Ile Val Glu Val Trp Lys Asp Ser Ala Tyr Pro Glu Glu
            420                 425                 430
Leu Ser Arg Val Thr Ala Ser Gly Phe Pro Val Ile Leu Ser Ala Pro
        435                 440                 445
Trp Tyr Leu Asp Leu Ile Ser Tyr Gly Gln Asp Trp Arg Lys Tyr Tyr
    450                 455                 460
Lys Val Glu Pro Leu Asp Phe Gly Gly Thr Gln Lys Gln Lys Gln Leu
465                 470                 475                 480
Phe Ile Gly Gly Glu Ala Cys Leu Trp Gly Glu Tyr Val Asp Ala Thr
                485                 490                 495
Asn Leu Thr Pro Arg Leu Trp Pro Arg Ala Ser Ala Val Gly Glu Arg
            500                 505                 510
Leu Trp Ser Ser Lys Asp Val Arg Asp Met Asp Asp Ala Tyr Asp Arg
        515                 520                 525
Leu Thr Arg His Arg Cys Arg Met Val Glu Arg Gly Ile Ala Ala Gln
    530                 535                 540
Pro Leu Tyr Ala Gly Tyr Cys Asn His Glu Asn Met
545                 550                 555
```

<210> 16
<211> 1857
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 16
```
ctgatccggg ccgggcggga agtcgggtcc cgaggctccg gctcggcaga ccgggcggaa      60
agcagccgag cggccatgga gctgtgcggg ctggggctgc cccggccgcc catgctgctg     120
gcgctgctgt tggcgacact gctggcggcg atgttggcgc tgctgactca ggtggcgctg     180
gtggtgcagg tggcggaggc ggctcgggcc ccgagcgtct cggccaagcc ggggccggcg     240
ctgtggcccc tgccgctctc ggtgaagatg accccgaacc tgctgcatct cgccccggag     300
aacttctaca tcagccacag ccccaattcc acggcgggcc cctcctgcac cctgctggag     360
gaagcgtttc gacgatatca tggctatatt tttggtttct acaagtggca tcatgaacct     420
gctgaattcc aggctaaaac ccaggttcag caacttcttg tctcaatcac ccttcagtca     480
gagtgtgatg ctttccccaa catatcttca gatgagtctt atactttact tgtgaaagaa     540
ccagtggctg tccttaaggc aacagagtt tggggagcat tacgaggttt agagaccttt     600
agccagttag tttatcaaga ttcttatgga actttcacca tcaatgaatc caccattatt     660
gattctccaa ggttttctca cagaggaatt ttgattgata catccagaca ttatctgcca     720
gttaagatta ttcttaaaac tctggatgcc atggcttta ataagtttaa tgttcttcac     780
tggcacatag ttgatgacca gtctttccca tatcagagca tcacttttcc tgagttaagc     840
aataaaggaa gctattcttt gtctcatgtt tatacaccaa atgatgtccg tatggtgatt     900
gaatatgcca gattacgagg aattcgagtc ctgccagaat ttgataccc tgggcataca     960
ctatcttggg aaaaggtca gaaagacctc ctgactccat gttacagtag acaaaacaag    1020
ttggactctt ttggacctat aaaccctact ctgaatacaa catacagctt ccttactaca    1080
tttttcaaag aaattagtga ggtgtttcca gatcaattca ttcatttggg aggagatgaa    1140
gtggaattta aatgttggga atcaaatcca aaaattcaag atttcatgag gcaaaaaggc    1200
tttggcacag atttttaagaa actagaatct ttctacattc aaaaggtttt ggatattatt    1260
gcaaccataa acaagggatc cattgtctgg caggaggttt ttgatgataa agcaaagctt    1320
gcgccgggca caatagttga agtatggaaa gacagcgcat atcctgagga actcagtaga    1380
gtcacagcat ctggcttccc tgtaatcctt tctgctcctt ggtacttaga tttgattagc    1440
tatggacaag attggaggaa atactataaa gtggaacctc ttgattttgg cggtactcag    1500
aaacagaaac aacttttcat tggtggagaa gcttgtctat ggggagaata tgtggatgca    1560
actaacctca ctccaagatt atggcctcgg gcaagtgctg ttggtgagag actctggagt    1620
tccaaagatg tcagagatat ggatgacgcc tatgacagac tgacaaggca ccgctgcagg    1680
atggtcgaac gtggaatagc tgcacaacct ctttatgctg atattgtaa ccatgagaac    1740
atgtaaaaaa tggagggga aaaggccaca gcaatctgta ctacaatcaa ctttattttg    1800
```

```
aaatcatgta aaataagata ttagactttt ttgaataaaa tattttatt gattgaa        1857
```

<210> 17
<211> 536
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 17

```
Met Pro Gln Ser Pro Arg Ser Ala Pro Gly Leu Leu Leu Leu Gln Ala
1               5                   10                  15
Leu Val Ser Leu Val Ser Leu Ala Leu Val Ala Pro Ala Arg Leu Gln
            20                  25                  30
Pro Ala Leu Trp Pro Phe Pro Arg Ser Val Gln Met Phe Pro Arg Leu
            35                  40                  45
Leu Tyr Ile Ser Ala Glu Asp Phe Ser Ile Asp His Ser Pro Asn Ser
    50                  55                  60
Thr Ala Gly Pro Ser Cys Ser Leu Leu Gln Glu Ala Phe Arg Arg Tyr
65                  70                  75                  80
Tyr Asn Tyr Val Phe Gly Phe Tyr Lys Arg His His Gly Pro Ala Arg
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Phe Arg Ala Glu Pro Gln Leu Gln Lys Leu Leu Val Ser Ile Thr Leu
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Glu Ser Glu Cys Glu Ser Phe Pro Ser Leu Ser Ser Asp Glu Thr Tyr
            115                 120                 125
Ser Leu Leu Val Gln Glu Pro Val Ala Val Leu Lys Ala Asn Ser Val
    130                 135                 140
Trp Gly Ala Leu Arg Gly Leu Glu Thr Phe Ser Gln Leu Val Tyr Gln
145                 150                 155                 160
Asp Ser Phe Gly Thr Phe Thr Ile Asn Glu Ser Ser Ile Ala Asp Ser
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Pro Arg Phe Pro His Arg Gly Ile Leu Ile Asp Thr Ser Arg His Phe
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Leu Pro Val Lys Thr Ile Leu Lys Thr Leu Asp Ala Met Ala Phe Asn
            195                 200                 205
Lys Phe Asn Val Leu His Trp His Ile Val Asp Asp Gln Ser Phe Pro
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Tyr Gln Ser Thr Thr Phe Pro Glu Leu Ser Asn Lys Gly Ser Tyr Ser
225                 230                 235                 240
Leu Ser His Val Tyr Thr Pro Asn Asp Val Arg Met Val Leu Glu Tyr
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Ala Arg Leu Arg Gly Ile Arg Val Ile Pro Glu Phe Asp Thr Pro Gly
            260                 265                 270
His Thr Gln Ser Trp Gly Lys Gly Gln Lys Asn Leu Leu Thr Pro Cys
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Tyr Asn Gln Lys Thr Lys Thr Gln Val Phe Gly Pro Val Asp Pro Thr
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Val Asn Thr Thr Tyr Ala Phe Phe Asn Thr Phe Phe Lys Glu Ile Ser
305                 310                 315                 320
Ser Val Phe Pro Asp Gln Phe Ile His Leu Gly Gly Asp Glu Val Glu
                325                 330                 335
Phe Gln Cys Trp Ala Ser Asn Pro Asn Ile Gln Gly Phe Met Lys Arg
            340                 345                 350
Lys Gly Phe Gly Ser Asp Phe Arg Arg Leu Glu Ser Phe Tyr Ile Lys
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Lys Ile Leu Glu Ile Ile Ser Ser Leu Lys Lys Asn Ser Ile Val Trp
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Gly Ser Gly Phe Pro Ala Ile Leu Ser Ala Pro Trp Tyr Leu Asp Leu
            420                 425                 430
Ile Ser Tyr Gly Gln Asp Trp Lys Asn Tyr Tyr Lys Val Glu Pro Leu
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Asn Phe Glu Gly Ser Glu Lys Gln Lys Gln Leu Val Ile Gly Gly Glu
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Ala Cys Leu Trp Gly Glu Phe Val Asp Ala Thr Asn Leu Thr Pro Arg
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Thr Val Thr Asp Leu Glu Asn Ala Tyr Lys Arg Leu Ala Val His Arg
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Cys Arg Met Val Ser Arg Gly Ile Ala Ala Gln Pro Leu Tyr Thr Gly
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Tyr Cys Asn Tyr Glu Asn Lys Ile
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<211> 1750
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
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<210> 19
<211> 12263
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 19
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gttagaccag atctgagcct gggagctctc tggctaacta gggaacccac tgcttaagcc       300
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cgtgagctat gagaaagcgc cacgcttccc gaagggagaa aggcggacag gtatccggta  10500
agcggcaggg tcggaacagg agagcgcacg agggagcttc caggggggaaa cgcctggtat  10560
ctttatagtc ctgtcgggtt cgccacctc tgacttgagc gtcgattttt gtgatgctcg  10620
tcaggggggc ggagcctatg gaaaaacgcc agcaacgcgg ccttttacg gttcctggcc  10680
ttttgctggc cttttgctca catgttcttt cctgcgttat ccctgattc tgtggataac  10740
cgtattaccg cctttgagtg agctgatacc gctcgccgca gccgaacgac cgagcgcagc  10800
gagtcagtga gcgaggaagc ggaagagcgc ccaatacgca aaccgcctct ccccgcgcgt  10860
tggccgattc attaatgcag ctggcacgac aggtttcccg actggaaagc gggcagtgag  10920
cgcaacgcaa ttaatgtgag ttagctcact cattaggcac cccaggcttt acactttatg  10980
cttccggctc gtatgttgtg tggaattgtg agcggataac aatttcacac aggaaacagc  11040
tatgaccatg attacgccaa gcgcgcaatt aaccctcact aaagggaaca aaagctggag  11100
ctgcaagctt                                                          11110
```

```
<210> 21
<211> 1278
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note = ¯
      Synthetic Construct
```

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<400> 21
```
tcgaggtgag ccccacgttc tgcttcactc tccccatctc cccccctcc ccaccccaa       60
ttttgtattt atttatttt taattatttt gtgcagcgat gggggcgggg gggggggggg      120
cgcgcgccag gcggggcggg gcggggcgag gggcggggcg gggcgaggcg gagaggtgcg      180
gcggcagcca atcagagcgg cgcgctccga aagtttcctt ttatggcgag gcggcggcgg      240
cggcggccct ataaaaagcg aagcgcgcgg cgggcgggag tcgctgcgtt gccttcgccc      300
cgtgccccgc tccgcgccgc ctcgcgccgc ccgccccggc tctgactgac cgcgttactc      360
ccacaggtga gcgggcggga cggcccttct cctccgggct gtaattagcg cttggtttaa      420
tgacggctcg tttcttttct gtggctgcgt gaaagcctta aagggctccg ggagggccct      480
ttgtgcgggg gggagcggct cgggggggtgc gtgcgtgtgt gtgtgcgtgg ggagcgccgc      540
gtgcggcccg cgctgcccgg cggctgtgag cgctgcgggc gcggcgcggg gctttgtgcg      600
ctccgcgtgt gcgcgagggg agcgcggccg ggggcggtgc cccgcggtgc ggggggggctg      660
cgaggggaac aaaggctgcg tgcggggtgt gtgcgtgggg gggtgagcag ggggtgtggg      720
cgcggcggtc gggctgtaac ccccccctgc accccctcc ccgagttgct gagcacggcc      780
cggcttcggg tgcggggctc cgtgcggggc gtggcgcggg gctcgccgtg ccgggcgggg      840
ggtggcggca ggtggggggtg ccgggcgggg cggggccgcc tcgggccggg gagggctcgg      900
gggaggggcg cggcggcccc ggagcgccgg cggctgtcga ggcgcggcga ccgcagcca      960
ttgccttta tggtaatcgt gcgagagggc gcaggggactt cctttgtccc aaatctggcg     1020
gagccgaaat ctgggaggcg ccgccgcacc ccctctagcg ggcgcgggcg aagcggtgcg     1080
gcgccggcag gaaggaaatg ggcggggagg gccttcgtgc gtcgccgcgc cgccgtcccc     1140
ttctccatct ccagcctcgg ggctgccgca gggggacggc tgccttcggg ggggacgggg     1200
cagggcgggg ttcggcttct ggcgtgtgac cggcggggtt tatatcttcc cttctctgtt     1260
cctccgcagc cagccatg                                                   1278
```

<210> 22
<211> 1278
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 22
```
tcgaggtgag ccccacgttc tgcttcactc tccccatctc cccccctcc ccaccccaa       60
ttttgtattt atttatttt taattatttt gtgcagcgat gggggcgggg gggggggggg      120
cgcgcgccag gcggggcggg gcggggcgag gggcggggcg gggcgaggcg gagaggtgcg      180
gcggcagcca atcagagcgg cgcgctccga aagtttcctt ttatggcgag gcggcggcgg      240
cggcggccct ataaaaagcg aagcgcgcgg cgggcgggag tcgctgcgtt gccttcgccc      300
cgtgccccgc tccgcgccgc ctcgcgccgc ccgccccggc tctgactgac cgcgttactc      360
ccacaggtga gcgggcggga cggcccttct cctccgggct gtaattagcg cttggtttaa      420
tgacggctcg tttcttttct gtggctgcgt gaaagcctta aagggctccg ggagggccct      480
ttgtgcgggg gggagcggct cgggggggtgc gtgcgtgtgt gtgtgcgtgg ggagcgccgc      540
gtgcggcccg cgctgcccgg cggctgtgag cgctgcgggc gcggcgcggg gctttgtgcg      600
ctccgcgtgt gcgcgagggg agcgcggccg ggggcggtgc cccgcggtgc ggggggggctg      660
cgaggggaac aaaggctgcg tgcggggtgt gtgcgtgggg gggtgagcag ggggtgtggg      720
cgcggcggtc gggctgtaac ccccccctgc accccctcc ccgagttgct gcgcacggcc      780
cggcttcggg tgcggggctc cgtgcggggc gtggcgcggg gctcgccgtg ccgggcgggg      840
ggtggcggca ggtggggggtg ccgggcgggg cggggccgcc tcgggccggg gagggctcgg      900
gggaggggcg cggcggcccc ggagcgccgg cggctgtcga ggcgcggcga ccgcagcca      960
ttgccttta tggtaatcgt gcgagagggc gcaggggactt cctttgtccc aaatctggcg     1020
gagccgaaat ctgggaggcg ccgccgcacc ccctctagcg ggcgcgggcg aagcggtgcg     1080
gcgccggcag gaaggaaatg ggcggggagg gccttcgtgc gtcgccgcgc cgccgtcccc     1140
ttctccatct ccagcctcgg ggctgccgca gggggacggc tgccttcggg ggggacgggg     1200
cagggcgggg ttcggcttct ggcgttgtac cggcggggtt tatatcttcc cttctctgtt     1260
cctccgcagc cagccatg                                                   1278
```

<210> 23
<211> 1729
<212> DNA
<213> Artificial Sequence

```
<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 23
gaattcggta ccctagttat taatagtaat caattacggg gtcattagtt catagcccat      60
atatggagtt ccgcgttaca taacttacgg taaatggccc gcctggctga ccgcccaacg     120
accccgccc attgacgtca ataatgacgt atgttcccat agtaacgcca atagggactt      180
tccattgacg tcaatgggtg gactatttac ggtaaactgc ccacttggca gtacatcaag     240
tgtatcatat gccaagtacg ccccctattg acgtcaatga cggtaaatgg cccgcctggc     300
attatgccca gtacatgacc ttatgggact ttcctacttg gcagtacatc tacgtattag     360
tcatcgctat taccatggtc gaggtgagcc ccacgttctg cttcactctc cccatctccc     420
cccctcccc accccaatt ttgtatttat ttattttta attattttgt gcagcgatgg       480
gggcggggg gggggggggg cgcgcgccag gcggggcggg gcggggcgag gggcggggcg      540
gggcgaggcg gagaggtgcg gcggcagcca atcagagcgg cgcgctccga aagtttcctt     600
ttatggcgag gcggcggcgg cggcggccct ataaaaagcg aagcgcgcgg cgggcgggag     660
tcgctgcgac gctgccttcg ccccgtgccc cgctccgccg ccgcctcgcg ccgcccgccc     720
cggctctgac tgaccgcgtt actcccacag gtgagcgggc gggacggccc ttctcctccg     780
ggctgtaatt agcgcttggt ttaatgacgg cttgtttctt ttctgtggct gcgtgaaagc     840
cttgaggggc tccgggaggg ccctttgtgc gggggggagc ggctcggggg gtgcgtgcgt     900
gtgtgtgtgc gtggggagcg ccgcgtgcgg cccgcgctgc cggcggctg tgagcgctgc       960
gggcgcggcg cggggctttg tgcgctccgc agtgtgcgcg aggggagcgc ggccgggggc     1020
ggtgccccgc ggtgcggggg gggctgcgag gggaacaaag gctgcgtgcg gggtgtgtgc     1080
gtggggggt gagcagggg tgtgggcgcg gcggtcgggc tgtaaccccc ccctgcaccc      1140
ccctccccga gttgctgagc acggcccggc ttcgggtgcg gggctccgta cggggcgtgg     1200
cgcggggctc gccgtgccgg gcggggggtg gcggcaggtg ggggtgccgg gcggggcggg     1260
gccgcctcgg gccggggagg gctcggggga ggggcgcggc ggcccccgga gcgccggcgg     1320
ctgtcgaggc gcggcgagcc gcagccattg cctttatgg taatcgtgcg agagggcgca      1380
gggacttcct ttgtcccaaa tctgtgcgga gccgaaatct gggaggcgcc gccgcacccc     1440
ctctagcggg cgcggggcga agcggtgcgg cgccggcagg aaggaaatgg gcggggaggg     1500
ccttcgtgcg tcgccgcgcc gccgtcccct tctccctctc cagcctcggg gctgtccgcg     1560
gggggacggc tgccttcggg ggggacgggg cagggcgggg ttcggcttct ggcgtgtgac     1620
cggcggctct agagcctctg ctaaccatgt tcatgccttc ttcttttcc tacagctcct      1680
gggcaacgtg ctggttattg tgctgtctca tcattttggc aaagaattc              1729

<210> 24
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 24
tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata tggagttccg      60
cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc cccgcccatt     120
gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc attgacgtca     180
atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt atcatatgcc     240
aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt atgcccagta     300
catgacctta tgggactttc ctacttggca gtacatctac gtattagtca tcgctattac     360
catggt                                                                366

<210> 25
<211> 1295
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
```

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Synthetic Construct

<400> 25

```
ccaattttgt atttatttat tttttaatta ttttgtgcag cgatggggggc gggggggggg     60
gggggcgcg cgccaggcgg ggcggggcgg ggcgaggggc ggggcggggc gaggcggaga    120
ggtgcggcgg cagccaatca gagcggcgcg ctccgaaagt ttcctttttat ggcgaggcgg    180
cggcggcggc ggccctataa aaagcgaagc cgcggcgggg cgggagtcgc tgcgacgctg    240
ccttcgcccc gtgccccgct ccgccgccgc ctcgcgccgc ccgcccggc tctgactgac    300
cgcgttactc ccacaggtga gcgggcggga cggcccttct cctccgggct gtaattagcg    360
cttggtttaa tgacggcttg tttcttttct gtggctgcgt gaaagccttg aggggctccg    420
ggagggccct ttgtgcgggg gggagcggct cggggggtgc gtgcgtgtgt gtgtgcgtgg    480
ggagcgccgc gtgcggcccg cgctgcccgg cggctgtgag cgctgcgggc gcggcgcggg    540
gctttgtgcg ctccgcagtg tgcgcgaggg gagcgcggcc ggggcggtg ccccgcggtg    600
cggggggggc tgcgagggga acaaaggctg cgtgcggggt gtgtgcgtgg ggggtgagc    660
agggggtgtg ggcgcggcgg tcgggctgta acccccccct gcacccccct ccccgagttg    720
ctgagcacgg cccggcttcg ggtgcggggc tccgtacggg gcgtggcgcg gggctcgccg    780
tgccgggcgg ggggtggcgg caggtggggg tgccgggcgg ggcggggccg cctcgggccg    840
gggagggctc ggggggagggg cgcggcggcc cccggagcgc cggcggctgt cgaggcgcgg    900
cgagccgcag ccattgcctt ttatggtaat cgtgcgagag ggcgcaggga cttcctttgt    960
cccaaatctg tgcggagccg aaatctggga ggcgccgccg caccccctct agcgggcgcg   1020
gggcgaagcg gtgcggcgcc ggcaggaagg aaatgggcgg ggagggcctt cgtgcgtcgc   1080
cgcgccgccg tccccttctc cctctccagc ctcggggctg tccgcggggg gacggctgcc   1140
ttcggggggg acggggcagg gcggggttcg gcttctggcg tgtgaccggc ggctctagag   1200
cctctgctaa ccatgttcat gccttcttct ttttcctaca gctcctgggc aacgtgctgg   1260
ttattgtgct gtctcatcat tttggcaaag aattc                              1295
```

<210> 26
<211> 1278
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 26

```
tcgaggtgag ccccacgttc tgcttcactc tccccatctc ccccccctcc ccaccccaa      60
ttttgtattt atttatttt taattatttt gtgcagcgat ggggggcgggg ggggggggg    120
cgcgcgccag gcggggcggg gcggggcgag gggcggggcg gggcgaggcg gagaggtgcg    180
gcggcagcca atcagagcgg cgcgctccga aagtttcctt ttatggcgag gcggcggcgg    240
cggcggccct ataaaaagcg aagcgcgcgg cgggcgggag tcgctgcgtt gccttcgccc    300
cgtgccccgc tccgcgccgc ctcgcgccgc ccgcccggc tctgactgac cgcgttactc    360
ccacaggtga gcgggcggga cggcccttct cctccgggct gtaattagcg cttggtttaa    420
tgacggctcg tttcttttct gtggctgcgt gaaagcctta aagggctccg ggagggccct    480
ttgtgcgggg gggagcggct cggggggtgc gtgcgtgtgt gtgtgcgtgg ggagcgccgc    540
gtgcggcccg cgctgcccgg cggctgtgag cgctgcgggc gcggcgcggg gctttgtgcg    600
ctccgcgtgt gcgcgagggg agcgcggccg ggggcggtgc cccgcggtgc ggggggggctg    660
cgaggggaac aaaggctgcg tgcggggtgt gtgcgtgggg gggtgagcag ggggtgtggg    720
cgcggcggtc gggctgtaac cccccctgc accccctcc ccgagttgct gcgcacggcc    780
cggcttcggg tgcggggctc cgtgcggggc gtggcgcggg gctcgccgtg ccgggcgggg    840
ggtggcggca ggtggggggtg ccgggcgggg cggggccgcc tcgggccggg gagggctcgg    900
gggaggggcg cggcggcccc ggagcgccgg cggctgtcga ggcgcggcga ccgcagcca    960
ttgcctttta tggtaatcgt gcgagagggc gcaggactt cctttgtccc aaatctggcg   1020
gagccgaaat ctgggaggcg ccgccgcacc ccctctagcg ggcgcgggcg aagcggtgcg   1080
gcgccggcag gaaggaaatg ggcggggagg gccttcgtgc gtcgccgcgc cgcgtcccc   1140
ttctccatct ccagcctcgg ggctgccgca ggggacggc tgccttcggg ggggacgggg   1200
cagggcgggg ttcggcttct ggcgttgtac cggcggggtt tatatcttcc cttctctgtt   1260
cctccgcagc cagccatg                                                1278
```

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<210> 27
<211> 229
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 27
gtattagtca tcgctattac catggtgatg cggttttggc agtacatcaa tgggcgtgga   60
tagcggtttg actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg   120
ttttggcacc aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg   180
caaatgggcg gtaggcgtgt acggtgggag gtctatataa gcagagctc   229

<210> 28
<211> 281
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 28
tggcattatg cccagtacat gaccttatgg gactttccta cttggcagta catctacgta   60
ttagtcatcg ctattaccat ggtgatgcgg ttttggcagt acatcaatgg gcgtggatag   120
cggtttgact cacggggatt tccaagtctc caccccattg acgtcaatgg gagtttgttt   180
tggcaccaaa atcaacggga ctttccaaaa tgtcgtaaca actccgcccc attgacgcaa   240
atgggcggta ggcgtgtacg gtgggaggtc tatataagca g   281

<210> 29
<211> 282
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 29
attatgccca gtacatgacc ttatgggact ttcctacttg gcagtacatc tacgtattag   60
tcatcgctat taccatggtg atgcggtttt ggcagtacat caatgggcgt ggatagcggt   120
ttgactcacg gggatttcca agtctccacc ccattgacgt caatgggagt ttgttttggc   180
accaaaatca cgggactttc caaaatgtcg taacaactc cgccccattg acgcaaatgg   240
gcggtaggcg tgtacggtgg gaggtctata taagcagagc tc   282

<210> 30
<211> 512
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 30
ttgcgttaca taacttacgg taaatggccc gcctggctga ccgcccaacg accccgccc   60
attgacgtca ataatgacgt atgttcccat agtaacgcca atagggactt ccattgacg   120
tcaatgggtg gactatttac ggtaaactgc ccacttggca gtacatcaag tgtatcatat   180

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```
gccaagtacg ccccctattg acgtcaatga cggtaaatgg cccgcctggc attatgccca      240
gtacatgacc ttatgggact ttcctacttg gcagtacatc tacgtattag tcatcgctat      300
taccatggtg atgcggtttt ggcagtacat caatgggcgt ggatagcggt ttgactcacg      360
gggatttcca agtctccacc ccattgacgt caatgggagt ttgttttggc accaaaatca      420
acgggacttt ccaaaatgtc gtaacaactc cgccccattg acgcaaatgg gcggtaggcg      480
tgtacggtgg gaggtctata taagcagagc tc                                    512
```


<210> 31
<211> 308
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 31
```
tcggcgaagc ctcgcgcggc cggccaggac gaggagcgcc actaggttga acatccgcac       60
gagccgccgg gccaggtctc ggacgggctc tcgagactcg atctcgtgca tgtcggcggt      120
ccgcggtgag gttatagacc atctgctagg cgggtccggg gagacaggca cattactggc      180
ctcggcgccc agcctaggcg tgtctagagc tcgaccgcgc gtccggagcg ccattcgacc      240
ggcgggtagc gagaagaacg ccggagaccg caggttataa caacgtcatg cataaattaa      300
gaatgggc                                                               308
```


<210> 32
<211> 1848
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 32
```
ctgcagtgaa taataaaatg tgtgtttgtc cgaaatacgc gtttgagatt tctgtcccga       60
ctaaattcat gtcgcgcgat agtggtgttt atcgccgata gagatggcga tattggaaaa      120
atcgatattt gaaaatatgg catattgaaa atgtcgccga tgtgagtttc tgtgtaactg      180
atatcgccat ttttccaaaa gttgattttt gggcatacgc gatatctggc gatacgctta      240
tatcgtttac gggggatggc gatagacgcc tttggtgact tgggcgattc tgtgtgtcgc      300
aaatatcgca gtttcgatat aggtgacaga cgatatgagg ctatatcgcc gatagaggcg      360
acatcaagct ggcacatggc caatgcatat cgatctatac attgaatcaa tattggccat      420
tagccatatt attcattggt tatatagcat aaatcaatat tggctattgg ccattgcata      480
cgttgtatcc atatcataat atgtacattt atattggctc atgtccaaca ttaccgccat      540
gttgacattg attattgact agttattaat agtaatcaat tacggggtca ttagttcata      600
gcccatatat ggagttccgc gttacataac ttacggtaaa tggcccgcct ggctgaccgc      660
ccaacgaccc ccgcccattg acgtcaataa tgacgtatgt tcccatagta acgccaatag      720
ggactttcca ttgacgtcaa tgggtggagt atttacggta aactgcccac ttggcagtac      780
atcaagtgta tcatatgcca agtacgcccc ctattgacgt caatgacggt aaatggcccg      840
cctggcatta tgcccagtac atgaccttat gggactttcc tacttggcag tacatctacg      900
tattagtcat cgctattacc atggtgatgc ggttttggca gtacatcaat gggcgtggat      960
agcggtttga ctcacgggga tttccaagtc tccaccccat tgacgtcaat gggagtttgt     1020
tttggcacca aaatcaacgg gactttccaa aatgtcgtaa caactccgcc ccattgacgc     1080
aaatgggcgg taggcgtgta cggtgggagg tctatataag cagagctcgt ttagtgaacc     1140
gtcagatcgc ctggagacgc catccacgct gttttgacct ccatagaaga caccgggacc     1200
gatccagcct ccgcggccgg gaacggtgca ttggaacgcg gattccccgt gccaagagtg     1260
acgtaagtac cgcctataga gtctataggc ccacccctt ggcttcttat gcatgctata     1320
ctgtttttgg cttggggtct atacacccc gcttcctcat gttataggtg atggtatagc     1380
ttagcctata ggtgtgggtt attgaccatt attgaccact cccctattgg tgacgatact     1440
ttccattact aatccataac atggctcttt gcacaactct ctttattggc tatatgccaa     1500
tacactgtcc ttcagagact gacacggact ctgtattttt acaggatggg gtctcattta     1560
```

```
ttatttacaa attcacatat acaacaccac cgtccccagt gcccgcagtt tttattaaac      1620
ataacgtggg atctccagcg aatctcgggt acgtgttccg gacatggggc tcttctccgg      1680
tagcggcgga gcttctacat ccagccctgc tcccatcctc ccactcatgg tcctcggcag      1740
ctccttgctc ctaacagtgg aggccagact taggcacagc acgatgccca ccaccaccag      1800
tgtgcccaca aggccgtggc ggtagggtat gtgtctgaaa atgagctc                   1848
```

<210> 33
<211> 1176
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 33
```
cccgggccca gcaccccaag gcggccaacg ccaaaactct ccctcctcct cttcctcaat       60
ctcgctctcg ctcttttttt ttttcgcaaa aggaggggag agggggtaaa aaaatgctgc      120
actgtgcggc gaagccggtg agtgagcggc gcggggccaa tcagcgtgcg ccgttccgaa      180
agttgccttt tatggctcga gcggccgcgg cggcgcccta taaaacccag cggcgcgacg      240
cgccaccacc gccgagaccg cgtccgcccc gcgagcacag agcctcgcct ttgccgatcc      300
gccgcccgtc cacacccgcc gccaggtaag cccggccagc cgaccggggc atgcggccgc      360
ggccccttcg cccgtgcaga gccgccgtct gggccgcagc ggggggcgca tggggggga      420
accggaccgc cgtgggggc gcgggagaag cccctgggcc tccggagatg ggggacaccc      480
cacgccagtt cggaggcgcg aggccgcgct cgggaggcgc gctccggggg tgccgctctc      540
ggggcggggg caaccggcgg ggtctttgtc tgagccgggc tcttgccaat ggggatcgca      600
gggtgggcgc ggcgtagccc ccgccaggcc cggtggggc tggggcgcca ttgccggtgc      660
gcgctggtcc tttgggcgct aactgcgtgc gcgctgggaa ttggcgctaa ttgcgcgtgc      720
gcgctgggac tcaaggcgct aattgcgcgt gcgttctggg gcccggggtg ccgcggcctg      780
ggctggggcg aaggcgggct cggccggaag gggtggggtc gccgcggctc ccgggcgctt      840
gcgcgcactt cctgcccgag ccgctggccg cccgagggtg tggccgctgc gtgcgcgcgc      900
gccgacccgg cgctgtttga accgggcgga ggcggggctg gcgcccggtt gggaggggt      960
tggggcctgg cttcctgccg cgcgccgcgg ggacgcctcc gaccagtgtt tgccttttat     1020
ggtaataacg cggccggccc ggcttccttt gtccccaatc tgggcgcgcg ccggcgcccc     1080
ctggcggcct aaggactcgg cgcgccggaa gtggccaggg cggggcgac ttcggctcac     1140
agcgcgcccg gctattctcg cagctcacca tggatg                              1176
```

<210> 34
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 34
```
cttctggcgt gtgaccggcg gggtttatat cttcccttcc caagcttgg                  49
```

<210> 35
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 35
```
cttctggcgt gtgaccggcg gggtttatat cttcccttct ctgttcctcc gcagccccaa       60
gcttgg                                                                  66
```

```
<210> 36
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 36
cttctggcgt gtgaccggcg gggtttatat cttcccttct ctgttcctcc gcagccagcc     60
aagcttgg                                                              68


<210> 37
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 37
cttctggcgt gtgaccggcg gggtttatat cttcccttct ctgttcctcc gcagccagcc     60
atggatgat                                                             69


<210> 38
<211> 1278
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 38
tcgaggtgag ccccacgttc tgcttcactc tccccatctc ccccccctcc ccacccccaa   60
ttttgtattt atttattttt taattatttt gtgcagcgat ggggcgggg ggggggggg    120
cgcgcgccag gcggggcggg gcggggcgag gggcggggcg gggcgaggcg gagaggtgcg  180
gcggcagcca atcagagcgg cgcgctccga aagtttcctt ttatggcgag gcggcggcgg  240
cggcggccct ataaaaagcg aagcgcgcgg cgggcgggag tcgctgcgtt gccttcgccc  300
cgtgccccgc tccgcgccgc ctcgcgccgc ccgccccggc tctgactgac cgcgttactc  360
ccacaggtga gcgggcggga cggcccttct cctccgggct gtaattagcg cttggtttaa  420
tgacggctcg tttcttttct gtggctgcgt gaaagcctta aagggctccg ggagggccct  480
ttgtgcgggg gggagcggct cggggggtgc gtgcgtgtgt gtgtgcgtgg ggagcgccgc  540
gtgcggcccg cgctgcccgg cggctgtgag cgctgcgggc gcggcgcggg gctttgtgcg  600
ctccgcgtgt gcgcgagggg agcgcggccg ggggcggtgc cccgcggtgc ggggggggctg  660
cgagggaac aaaggctgcg tgcggggtgt gtgcgtgggg gggtgagcag ggggtgtggg   720
cgcggcggtc gggctgtaac ccccccctgc accccctcc ccgagttgct gcgcacggcc   780
cggcttcggg tgcggggctc cgtgcggggc gtggcgcggg gctcgccgtg ccgggcgggg   840
ggtggcggca ggtggggggtg ccgggcgggg cggggccgcc tcgggccggg gagggctcgg  900
gggagggggcg cggcggcccc ggagcgccgg cggctgtcga ggcgcggcga ccgcagcca   960
ttgccttta tggtaatcgt gcgagagggc gcaggactt cctttgtccc aaatctggcg    1020
gagccgaaat ctgggaggcg ccgccgcacc ccctctagcg ggcgcgggcg aagcggtgcg  1080
gcgccggcag gaaggaaatg ggcggggagg gccttcgtgc gtcgccgcgc cgccgtcccc   1140
ttctccatct ccagcctcgg ggctgccgca ggggacggc tgccttcggg ggggacgggg   1200
cagggcgggg ttcggcttct ggcgttgtac cggcggggtt tatatcttcc cttctctgtt  1260
cctccgcagc cagccatg                                                 1278
```

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<210> 39
<211> 1176
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
     Synthetic Construct

<400> 39
```
cccgggccca gcaccccaag gcggccaacg ccaaaactct ccctcctcct cttcctcaat      60
ctcgctctcg ctcttttttt ttttcgcaaa aggaggggag aggggtaaa aaaatgctgc      120
actgtgcggc gaagccggtg agtgagcggc gcggggccaa tcagcgtgcg ccgttccgaa      180
agttgccttt tatggctcga gcggccgcgg cggcgcccta taaaacccag cggcgcgacg      240
cgccaccacc gccgagaccg cgtccgcccc gcgagcacag agcctcgcct ttgccgatcc      300
gccgcccgtc cacacccgcc gccaggtaag cccggccagc cgaccggggc atgcggccgc      360
ggccccttcg cccgtgcaga gccgccgtct gggccgcagc ggggggcgca tgggggggga      420
accggaccgc cgtggggggc gcgggagaag cccctgggcc tccggagatg ggggacaccc      480
cacgccagtt cggaggcgcg aggccgcgct cgggaggcgc gctccggggg tgccgctctc      540
ggggcggggg caaccggcgg ggtctttgtc tgagccgggc tcttgccaat ggggatcgca      600
gggtgggcgc ggcgtagccc ccgccaggcc cggtggggc tggggcgcca ttgccggtgc      660
gcgctggtcc tttgggcgct aactgcgtgc gcgctgggaa ttggcgctaa ttgcgcgtgc      720
gcgctgggac tcaaggcgct aattgcgcgt gcgttctggg gcccggggtg ccgcggcctg      780
ggctggggcg aaggcgggct cggccggaag gggtggggtc gccgcggctc ccgggcgctt      840
gcgcgcactt cctgcccgag ccgctggccg cccgagggtg tggccgctgc gtgcgcgcgc      900
gccgacccgg cgctgtttga accgggcgga ggcggggctg gcgcccggtt gggagggggt      960
tggggcctgg cttcctgccg cgcgccgcgg ggacgcctcc gaccagtgtt tgccttttat     1020
ggtaataacg cggccggccc ggcttccttt gtccccaatc tgggcgcgcg ccggcgcccc     1080
ctggcggcct aaggactcgg cgcgccggaa gtggccaggg cggggggcgac ttcggctcac     1140
agcgcgcccg gctattctcg cagctcacca tggatg                             1176
```

<210> 40
<211> 1345
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
     Synthetic Construct

<400> 40
```
tcgaggtgag ccccacgttc tgcttcactc tccccatctc cccccctcc ccacccccaa       60
ttttgtattt atttattttt taattatttt gtgcagcgat ggggcggg ggggggggg       120
cgcgcgccag gcggggcggg gcggggcgag gggcgggcg gggcgaggcg gagaggtgcg      180
gcggcagcca atcagagcgg cgcgctccga aagtttcctt ttatggcgag gcggcggcgg      240
cggcggccct ataaaaagcg aagcgcgcg cgggcgggag tcgctgcgtt gccttcgccc      300
cgtgccccgc tccgcgccgc ctcgcgccgc ccgccccggc tctgactgac cgcgttactc      360
ccacaggtga gcgggcggga cggcccttct cctccgggct gtaattagcg cttggtttaa      420
tgacggctcg tttctttct gtggctgcgt gaaagcctta aagggctccg ggagggccct      480
ttgtgcgggg gggagcggct cgggggggtgc gtgcgtgtgt gtgtgcgtgg ggagcgccgc      540
gtgcggcccg cgctgcccgg cggctgtgag cgctgcgggc gcggcgcggg gctttgtgcg      600
ctccgcgtgt gcgcgagggg agcgcggccg ggggcggtgc cccgcggtgc ggggggggctg      660
cgagggaac aaaggctgcg tgcggggtgt gtgcgtgggg gggtgagcag ggggtgtggg      720
cgcggcggtc gggctgtaac cccccctgc accccctcc ccgagttgct gagcacggcc      780
cggcttcggg tgcgggctc cgtgcggggc gtggcgcggg gctcgccgtg ccgggcgggg      840
ggtggcggca ggtggggtg ccgggcgggg cggggccgcc tcgggccggg gagggctcgg      900
gggaggggcg cggcggcccc ggagcgccgg cggctgtcga ggcgcggcga ccgcagcca      960
ttgccttta tggtaatcgt gcgagagggc gcaggactt cctttgtccc aaatctggcg     1020
gagccgaaat ctgggaggcg ccgccgcacc ccctctagcg ggcgcgggcg aagcggtgcg     1080
gcgccggcag gaaggaaatg ggcggggagg gccttcgtgc gtcgccgcgc cgccgtcccc     1140
ttctccatct ccagcctcgg ggctgccgca ggggacggc tgccttcggg ggggacgggg     1200
```

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```
caggggcgggg ttcggcttct ggcgtgtgac cggcggctct agagcctctg ctaaccatgt    1260
tcatgccttc ttcttttttcc tacagctcct gggcaacgtg ctggttgttg tgctgtctca    1320

tcattttggc aaagaattca agctt                                            1345
```

<210> 41
<211> 684
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
      Synthetic Construct

<400> 41
```
tcaatattgg ccattagcca tattattcat tggttatata gcataaatca atattggcta     60
ttggccattg catacgttgt atctatatca taatatgtac atttatattg gctcatgtcc    120
aatatgaccg ccatgttggc attgattatt gactagttat taatagtaat caattacggg    180
gtcattagtt catagcccat atatggagtt ccgcgttaca taacttacgg taaatggccc    240
gcctggctga ccgcccaacg accccgccc attgacgtca ataatgacgt atgttcccat     300
agtaacgcca atagggactt tccattgacg tcaatgggtg gagtatttac ggtaaactgc    360
ccacttggca gtacatcaag tgtatcatat gccaagtccg cccctattg acgtcaatga     420
cggtaaatgg cccgcctggc attatgccca gtacatgacc ttacgggact ttcctacttg    480
gcagtacatc tacgtattag tcatcgctat taccatggtg atgcggtttt ggcagtacac    540
caatgggcgt ggatagcggt ttgactcacg gggatttcca agtctccacc ccattgacgt    600
caatgggagt ttgtttttggc accaaaatca acgggacttt ccaaaatgtc gtaataaccc    660
cgccccgttg acgcaaatgg gcgg                                            684
```

<210> 42
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 42
```
attttaaaat tcaggcctcg a                                                21
```

<210> 43
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 43
```
catagcgttg gctacccgtg a                                                21
```

<210> 44
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct
```

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```
<400> 44
cattctgcag cggtgcacgg c                                        21

<210> 45
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 45
gagaaccaag caacgacaaa atacc                                    25

<210> 46
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 46
gcattagaaa cagtccagcc catac                                    25

<210> 47
<211> 20

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 47
cgagtgacaa gcctgtagcc                                          20

<210> 48
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 48
ggttgacttt ctcctggtat gag                                      23

<210> 49
<211> 20
<212> DNA
<213> Artificial Sequence


<220>
<223> Description of Artificial Sequence; note =
```

            synthetic construct

<400> 49
atgttctctg ggaaatcgtg   20

<210> 50
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 50
gaaggactct ggctttgtct t   21

<210> 51
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 51
cagtcgtccg cttccgctac   20

<210> 52
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 52
agaaattggc tccgtggtcc c   21

<210> 53
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 53
agtcctgcca gaatttgata cc   22

<210> 54
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

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```
<400> 54
attccacgtt cgaccatcc                                          19

<210> 55
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 55
tttttccagt tccgtttatc c                                       21

<210> 56
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 56
tttatcgcca atccacatct                                         20

<210> 57
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 57
accacagtcc atgccatcac                                         20

<210> 58
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 58
tccaccaccc tgttgctgta                                         20

<210> 59
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct
```

<400> 59
tggtggagcg atttgtctgg tt   22

<210> 60
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 60
tagtagcgac gggcggtgtg   20

<210> 61
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 61
caccccaagg accccaagga gat   23

<210> 62
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 62
cgacgccgct cagaagaacc ac   22

<210> 63
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 63
cagcaggtgt cccaaagaa   19

<210> 64
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

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<400> 64
cttgaggtgg ttgtggaaaa g   21

<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 65
cccaagtgct gccgtcattt   20

<210> 66
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 66
gataggctcg cagggatgat ttc   23

<210> 67
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 67
tctctttcta cctcagactc tttgaa   26

<210> 68
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 68
gactcctttt ccgcttcctg   20

<210> 69
<211> 1986
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

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```
<400> 69
tcctcctctg ctcgcccaat ccttccaacc ccctatggtg gtatggctga cacagaaaat 60
gtctgctcct gtatgggaca tttgcccctc ttctccaaat ataagacagg atgaggccta 120
gcttttgctg ctccaaagtt ttaaaagaac acattgcacg gcatttaggg actctaaagg 180
gtggaggagg aatgagggaa ttgcatcatg ccaaggctgg tcctcatcca tcactgcttc 240
cagggcccag agtggcttcc aggaggtatt cttacaaagg aagcccgatc tgtagctaac 300
actcagagcc cattttcctg cgttaacccc tcccgacctc atatacagga gtaacatgat 360
cagtgacctg ggggagctgg ccaaactgcg ggacctgccc aagctgaggg ccttggtgct 420
gctggacaac ccctgtgccg atgagactga ctaccgccag gaggccctgg tgcagatggc 480
acacctagag cgcctagaca aagagtacta tgaggacgag gaccgggcag aagctgagga 540
gatccgacag aggctgaagg aggaacagga gcaagaactc gacccggacc aagacatgga 600
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cgcccgggcc cttcccccac ccgttcggtt ccccaccacc acccgcgctc gtacgtgcgt 1620
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gctctctctg cgccgccgcc gtcaccaccg ccaccgccac cggctgagtc tgcagtcctc 1800
gaggaactga aaaaccagaa agttaactgg taagtttagt cttttttgtct tttatttcag 1860
gtcccggatc cggtggtggt gcaaatcaaa gaactgctcc tcagtggatg ttgcctttac 1920
ttctaggcct gtacggaagt gttacttctg ctctaaaagc tgcggaattg tacccgcggc 1980
caagct                                                              1986
```

```
<210> 70
<211> 3633
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
      synthetic construct

<400> 70
tctagaatat agaagccaag gatttcaagg gtttcctttt ctctcttctt ctttttttttt 60
ctttttcttt ttcctgagat ggagtttcct tttgtagccc tgactgtcct ggaattcact 120
ctatagacca ggctagcctc acacttagtg atctgcctgc ctctgcctct tgggtgcctc 180
aggattcaag gcatgaacca ccactacccg accagggatt tcttacacac ttctgactgg 240
actaaccagg aaagcagaga gggagacagg aagaaaatgc tcagaaggaa ggagtaggat 300
tggaggtgag ctgggggaac ccagactgag ccgtgcagaa gacaaggaag aagaaagcca 360
cccacacacc taggatccac ccacagattt tgctctgggt acccctgtct ggagactgta 420
gggctttgtg atggaggtg gggtagtctt catgccccgt gccctttact ccagacctaa 480
atgcccaccc ccacatacag ctgctcgctc tctctctccc ctgcccttct cccaagagac 540
cagttctcca tccctggtct gcagccaagg ctgggggcag aagaactttc tggaggattt 600
gagtgagaaa agcaagagag cctcaagtag ggactggaac ctctgggaag ggagtgcaga 660
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atttggagag agacagaact cagagctcag cactttcctc tttctgtttt tcttcttgag 840
gaatttttttc ccccaactgc tgatgacttt accattcttg ggggtggggg ggtggagatt 900
```

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```
ctggcttttg ctcccccctac actccaagtg ccggacaaag ccctacattc cacaagaagc 960
cagggcttca gagtttccta aagatgaggt ggcgtggcga gtctcctccc tctcccagct 1020
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